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BULLETIN

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Further Notes upon Corema.

By JOHN H. REDFIELD.

My notes (in BULLETIN for September 1884) upon the localities of *Corema Conradii* have had the desired effect of eliciting from other contributors many new facts in regard to its distribution, especially in the more eastern portions of its geographical area. Among the more interesting of these notices is that of Mrs. Owen announcing its occurrence in the open sandy plains of Nantucket, where the conditions are such as would lead us to expect it, and also that of Prof. Lawson relative to the varied conditions under which it appears in Nova Scotia. He has pointed out the fact that, when growing in sand or gravel, the plant becomes more gregarious, covering continuously large areas, while upon rocks it is restricted to more isolated patches. Its manner of growth, in all the localities I have seen, accords with the observations of Prof. Lawson.

Early in July of this year, after some ineffectual search in Martha's Vineyard, I had an opportunity to see one or two of the localities in Nantucket. My examination was necessarily hasty, and probably I did not strike the most abundant one mentioned by Mrs. Owen. But I saw very numerous and extensive areas of the *Corema* between the old and new roads to Siaconsett, about four miles out. Its associates were *Arctostaphylos Uva-ursi* (which grows upon this island in greater profusion than I have seen it elsewhere), *Hudsonia ericoides*, and *Comptonia*, with some *Myrica cerifera* in the vicinity. The soil appeared to be purely silicious.

Through Mrs. Haines of Bangor, I have received a specimen of *Corema* collected this summer by Mr. Robert Smith of Jersey City, at North Truro, Cape Cod, where it was associated with *Hudsonia ericoides*, "on the side of a hill near the foot of which was a growth of scrub-pine." This may be the locality mentioned to me by Mr. Benjamin M. Watson, Jr. (BULLETIN xi., 99.)

In August, I climbed Mt. Beatty and Mt. Maguntícook, which lie just north of Camden, Me., and which I suppose are the eminences referred to by Prof. Chickering (BULLETIN xi., 116.) I was not successful in finding his locality. The summit rocks there are of quartzite, much glaciated, and would afford a suitable silicious soil. Much *Pinus Strobus* grows upon these hills, but I saw no *Pinus rigida*, the usual tree concomitant of *Corema*. There may perhaps be some error in Prof. Chickering's reference to this locality. Blue Mountain which he names lies not back of Camden, but about 22 miles northeastward, beyond Castine.

Nor did I succeed in finding this plant upon Green Mountain in Mt. Desert Island, though a large part of the bare ledges of its summit and of its western flanks was searched on the 7th of August of this year. Yet in so large an area it might easily elude discovery, and, even if now absent, it may once have existed previously to the fires which have so repeatedly overrun this mountain, and which have evidently made great changes in the character of the vegetation. On the rocks just east of the observatory I noticed limited quantities of *Hudsonia ericoides*, which may possibly have been mistaken for *Corema*. Nor did I observe *Empetrum* on that mountain, though so abundant on the headlands near the shore.

I can, however, announce the discovery of *Corema* in the southern part of Mt. Desert Island, near Seal Harbor, in three distinct localities. These are all upon the ridge called Jordan's Hills on the Coast Survey Chart, and on that portion of it which has been named Barr's Hill. My attention was called to the first of these localities by Mr. Arthur Chase of Haverhill, Mass. It is upon the western brow of the hill, upon a broad rock terrace overlooking Long Pond, about 150 feet above the level of the pond. Within a space of 50 feet square occur eight or ten patches of *Corema*, in scanty soil upon almost bare rock, disputing possession with *Gaylussacia resinosa* and *Vaccinium Pennsylvanicum*. Its other neighbors were *Potentilla tridentata*, *Kalmia angustifolia* and *Viburnum nudum*. The nearest trees were 40 or 50 feet distant, and were mainly *Populus alba*, var. *populifolia*, and *Pinus Strobus*. The rock is a sienite containing quartz and felspar in about equal proportions, with a very small admixture of hornblende, and the comminuted fragments make a sand of similar composition. A few days later, a second locality was found by Rev. Archibald M. Morrison of Orange, N. J. This is upon the eastern side of the ridge, a little northward from the head of the old path from the Seaside House, and nearly 300 feet above tide. Here there is but a single patch of the plant, six or eight feet in diameter, and here too it seems likely to be eventually stifled by a growth similar to that already mentioned. The rock is the same, with deeper soil. On the 19th of September, I found a third locality upon the southwest brow of the ridge, northeast from the "sea-wall" of Long Pond, 100 or 120 feet above tide. Here four or five patches are found under surroundings much like those of the other localities. The underlying rock is the same. The indications of dying out are more apparent here, there being a large amount of the dead plant on the margins of the patches, and one large patch of several feet in diameter was entirely dead, except for a few inches in the centre. We may note that, in all these localities upon Barr's Hill, the soil is less exclusively silicious than in any previously seen, and that the prevalent pine is not *Pinus rigidus*, but *Pinus Strobus*. This hill contains hundreds of acres of bare, horizontal ledges of rock just as well adapted to the growth of *Corema* as is the limited space actually occupied by it, and yet repeated and careful examination of its surface by numerous observers have brought to light not enough of it to cover a tenth of an acre.

The study of the various localities of *Corema* which I have been able to see convinces me that the plant had a very early introduction to our flora, perhaps following the glacial period, and that under less favoring circumstances it is becoming more and more restricted, and must eventually be supplanted by more vigorous competitors for existence.

The Botany of the Aztecs.—The various aspects of a scientific subject become in these days remarkably illustrated. We have seen an example of archæological botany in the light thrown upon the ancient flora of Egypt by the discussions of the evidence afforded by a few withered wreaths disentombed with the mummy of a Pharaoh. Recently, a Spanish writer has occupied the pages of the Anales del Museo Nacional de Mexico with an elaborate examination of the botanical lore of the ancient Aztecs and other dwellers in Mexico at the time of the conquest. A brief resumé of his conclusions may prove of interest in the pages of the BULLETIN, as the Anales are not widely distributed, and are not generally supposed to contain matter of value to botanists.

It seems conceded that the inhabitants of pre-Columbian Mexico had made very considerable progress in botanical study; they had, according to our author, formed an artificial classification, an extended glossology, and a system of iconographic representations by which they indicated plants by conventional symbols. At the time of the conquest, botanical science in Europe had itself made little progress beyond the limited developement that it had amongst the Greeks; the classification was largely medical, and trees and herbs constituted the two great divisions of the vegetable kingdom. At this time, in Mexico, the Aztecs and related tribes had established botanical gardens in which were grown plants that had been collected from the various districts of the kingdom, from newly acquired territories and from neighboring states or tribes. Thus, the handsome Bombacead known as *Cheirostemon*,* which was early found flourishing outside of the usual limit of its distribution, was regarded by Baron Humboldt as a plant transplanted by the ancient Matlatzincas.

The author of this treatise has used the famous work on the natural history of Mexico by Hernandez in its re-edited form, supplementing it with the testimony of other authors, and personal search amongst Indian vocabularies. The synonomy of the Mexicans, he claims, was extended, indicating our distinction between a scientific and a common name; thus, the plant called *totoycxitl*, 'bird's-foot,' in allusion to its quinquelobate leaves, was also called *caxtlatlapan*, which classed it with a botanical group—that of the Convolvulaceæ, it being an *Ipomœa*.

Quite frequently the various names of a plant arose from the form or other characteristic of some portion of it, or from its uses; thus, *chapulxochitl*, meaning 'locust-flower,' because of a resemblance of the flower to that insect, was also called *tenapalitl*,† also *mincapatli*, 'arrow-

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*Called by the Aztecs *macpalxochitl*, 'hand-flower,' from the peculiar shape and arrangement of the stamens.—ED.

† A name for several plants resembling *Sedum*, or life-everlasting.—ED.